

Application No. 10/535,360
Technology Center 3754
Amendment dated December 12, 2006
Reply to Office Action dated September 12, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): A flexible, tubular metal device with an internal diameter up to 60 millimeters, the device comprising a metal wall in which are formed one or more corrugated convolutions that define a corrugated outside surface and a corrugated inside surface ~~an outside surface~~ of the device and are oriented perpendicular to a longitudinal axis of the device, each of the convolutions having oppositely-disposed rounded top and bottom portions, the outside surface of the device having first and second sections with change positions therebetween, each of the first sections extending from one of the change positions to another of the change positions via one of the top portions, each of the second sections extending from one of the change positions to another of the change positions via one of the bottom portions, the length of each of the first sections being at least 10% longer than the length of each of the second sections, the outside surface having a non-constant curvature derived from a curve that is continuous in the first and second

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sections and defined by the intersection of the outside surface and a plane through a longitudinal axis of the device, the curvature of the outside surface being numerically smaller at the top portions than at the bottom portions, the curvature of the curve changing sign only once at each of the change positions.

Claim 2 (Previously presented): A device according to claim 1, wherein the length of each of the first sections is at least 50% longer than the length of each of the second sections.

Claim 3 (Previously presented): A device according to claim 1, wherein the curvature of the convolutions is numerically at least 20% smaller within the top portions than within the bottom portions.

Claim 4 (Previously presented): A device according to claim 1, wherein the convolutions have a pitch-height ratio (q) of about 0.7 to about 1.0.

Claim 5 (Previously presented): A device according to claim 1, wherein the curve has global maximums located at the top portions and has global minimums located at the bottom portions.

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Claim 6 (Previously presented): A device according to claim 1,
wherein the curve has a local minimum curvature between each adjacent pair
of the top and bottom portions thereof.

Claim 7 (Previously presented): A device according to claim 5,
wherein a section of the curve extends from a point corresponding to the global
minimum at a first of the bottom portions, through the global maximum at an
immediately adjacent one of the top portions, and to a point corresponding to
the global minimum at a second of the bottom portions immediately adjacent
the one of the top portions, the section of the curve being symmetric about an
axis perpendicular to the longitudinal axis and through the global maximum
within the immediately adjacent one of the top portions.

Claim 8 (Previously presented): A device according to claim 1,
wherein a majority of the convolutions are substantially identical.

Claim 9 (Previously presented): A device according to claim 1,
wherein the device is made of an extruded metal alloy pipe and the
convolutions are formed in a deep drawing process.

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Claim 10 (Previously presented): A device according to claim 9,
wherein the metal alloy is stainless steel or an aluminium alloy.

Claim 11 (Currently amended): A flexible, tubular bellows with an
internal diameter up to 60 millimeters, the bellows being defined by a metal wall
in which are formed ~~comprising~~ corrugated convolutions that define a
corrugated outside surface and a corrugated inside surface ~~an outside surface~~
of the bellows and are oriented perpendicular to a longitudinal axis of the
bellows, each of the convolutions having oppositely-disposed rounded top and
bottom portions, the outside surface of the bellows having first and second
sections with change positions therebetween, each of the first sections
extending from one of the change positions to another of the change positions
via one of the top portions, each of the second sections extending from one of
the change positions to another of the change positions via one of the bottom
portions, the length of each of the first sections being at least 10% longer than
the length of each of the second sections, the outside surface having a non-
constant curvature derived from a curve that is continuous in the first and
second sections and defined by the intersection of the outside surface and a
plane through a longitudinal axis of the bellows, the curvature of the outside

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surface being numerically smaller at the top portions than at the bottom portions, the curvature of the curve being zero at the change positions and changing sign only once between adjacent pairs of the top and bottom portions at the change position therebetween.